Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
Winter/Spring Habitat-based Density Models for Three Cetacean Species off Southern California

1.2. Summary description of the data:
We used a well-established Generalized Additive Modeling framework to develop cetacean SDMs based on 20 California Cooperative Oceanic Fisheries Investigations (CalCOFI) shipboard surveys conducted during winter and spring between 2005 and 2015. Models were fit for short-beaked common dolphin (Delphinus delphis delphis), Dall's porpoise (Phocoenoides dalli), and humpback whale (Megaptera novaeangliae). Model performance was evaluated based on a variety of established metrics, including the percentage of explained deviance, ratios of observed to predicted density, and visual inspection of predicted and observed distributions. Final models were used to produce spatial grids of average species density and spatially-explicit measures of uncertainty. Results provide the first fine scale (10 km) density predictions for these species during the cool seasons and reveal distribution patterns that are markedly different from summer/fall, thus providing novel insights into species ecology and quantitative data for the seasonal assessment of potential anthropogenic impacts.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2005-01-01 00:00:00+0000 to 2005-04-30 00:00:00+0000, 2006-01-01 00:00:00+0000 to 2006-04-30 00:00:00+0000, 2007-01-01 00:00:00+0000 to 2007-04-30 00:00:00+0000, 2008-01-01 00:00:00+0000 to 2008-04-30 00:00:00+0000, 2009-01-01 00:00:00+0000 to 2009-04-30 00:00:00+0000, 2010-01-01 00:00:00+0000 to 2010-04-30 00:00:00+0000, 2011-01-01 00:00:00+0000 to 2011-04-30 00:00:00+0000, 2012-01-01 00:00:00+0000 to 2012-04-30 00:00:00+0000, 2013-01-01 00:00:00+0000 to 2013-04-30 00:00:00+0000, 2014-01-01 00:00:00+0000 to 2014-04-30 00:00:00+0000, 2015-01-01 00:00:00+0000 to 2015-04-30 00:00:00+0000

1.5. Actual or planned geographic coverage of the data:
W: -179.9999999999, E: -115.95044115723, N: 43.00001933323, S: 27.46897906953

W: -125.055684, E: -117.122588, N: 38.065782, S: 30.070776

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Map (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
Timothy J Haverland

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
tim.haverland@noaa.gov

2.5. Phone number:
301-427-8137

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:
Timothy J Haverland

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):

Process Steps:

- 2015-05-01 00:00:00 - The NMSDD compliant grid layer, which required each cell to be 10^2 km, was produced using the ArcGIS Fishnet tool. The grid data layer was generated using the World Plate Carree projection so that each grid cell would line up with the points generated from any HBDM output. The gridded data layer was created to cover the entire study area. All fields required for the NMSDD were added.

- 2015-05-15 00:00:00 - The following fields were populated using ArcGIS ModelBuilder with inputs provided by subject matter experts (SME): SPECIES, SPECIES_2,STUDY, STRATUM, MODEL_TYPE, SEASON, AREA_SQKM, ABUNDANCE. The AREA_SQKM field was populated by calculating square kilometers using the ArcGIS geometry calculator.Areas were calculated using the World Cylindrical Equal Area projection. The ABUNDANCE field was populated by running a field calculation that multiplied the DENSITY and AREA_SQKM fields.

- 2015-05-20 00:00:00 - Habitat-based Density Model Data: Original data in csv format produced from habitat-based density models (HBDM) were converted to a point shapefile using ArcGIS. A spatial join between the points generated from the HBDM csv output and the NMSDD grid data was created in ArcGIS in order to populate the appropriate NMSDD attribute fieds with the HBDM information. The following fields were calculated from the HBDM information: DENSITY, UNCERTAINTY, AREA_SQKM2, ABUNDANCE2. The UNCERTAINTY field represents the coefficient of variation (CV) value. The AREA_SQKM2 and ABUNDANCE2 fields are for Navy internal purposes only and are used to compare the HBDM and NMSDD grid areas since there could be slight variations due to spatial projections.

- 2015-05-31 00:00:00 - Data Layer was projected to the WGS84 Global Coordinate System (GCS). Data geometry was validated by running ArcGIS topology checks and the check/repair geometry tool. Attribute values were validated by running a python script to ensure all fields were correctly populated.

- 2019-04-16 00:00:00 - For distributing data to the public via the CetSound project, we performed the following: - Made a single shapefile for each species, instead of separate shapefiles for winter and spring - Calculated STUDY column to "Becker, et al. 2017" - Calculated SEASON column to "Winter/Spring". While this does not meet Navy standards (Fall, Winter, Spring, Summer), we felt it was important to note the extended season that the data apply to because we are using a single shapefile. -

Removed Navy-specific fields AREA_SQKM2 and ABUNDANCE2 - Removed Shape_Area and Shape_Leng fields - Updated metadata with input from SME

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.2. Data storage facility prior to being sent to an archive facility
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

https://www.fisheries.noaa.gov/inport/item/56126

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

> Metadata produced and maintained in accordance with the NOAA Data Documentation
> Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-
> Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
NMFS Office of Science and Technology (OST)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
> https://cetsound.noaa.gov/packages/swfsc_CalCOFI_WinterSpring_Becker_et_al_2017.zip

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Moss Landing, CA

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.